

Safety bulletin

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Safety and health management system – Water management plans

A recent inrush incident at an underground mine has been directly linked with prolonged rainfall creating a large surface accumulation of water. The water percolated slowly into old underground workings through planes of weakness.

This situation is not unusual but recent rainfall, not experienced for many years in the Queensland coalfields, could result in substantial volumes of water entering mines from surface accumulations, directly or via aquifers and in amounts never experienced before. The result can be that water management systems are unable to cope with water increases larger than that which they were designed to handle.

In the aftermath of the recent incident you are strongly advised to:

- review your water management plans to ensure that they include sufficient capacity and stand-by equipment. This should encompass
 - pump capacity including back-up power generator, calibration and monitoring
 - stand-by capacity
 - physical measurements of pump performance and reservoirs
 - condition of sumps, bulkheads, ranges, valves, and measuring equipment
 - trigger levels
 - consideration of the hazard of steam generated when a pump loses its prime.
- consider in detail the impact of such rainfall and if it is possible that connectivity to larger bodies of water has increased.
- consider what impact your operations may have on another mine.
- ensure that the amount of water pumped from each part of the mine is identified, along with its probable source.
- establish a 'fingerprint' for the mine in terms of volumes pumped and the variation with the seasons, in much the same way that ventilation patterns are set to provide early warning of a spontaneous combustion event.
- consider the likely flow-path of water, above, into and then out of the mine and the potential for free-flow becoming artificially or inadvertently dammed by materials or structures constructed in the mine, or known to exist behind sealed areas.

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Please ensure all relevant people in your organisation receive a copy of this Safety bulletin. Any such advice supplied to site should reach those who require it, and it should also be placed on the mine noticeboards.

See more Safety alerts and Safety bulletins at
www.dme.qld.gov.au/mines/safety_information___bulletins.cfm